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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/772,645	02/05/2004	Rita Andreoli	CUNO-405.1	5791

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3M INNOVATIVE PROPERTIES COMPANY  
PO BOX 33427  
ST. PAUL, MN 55133-3427

EXAMINER

NAFF, DAVID M

ART UNIT PAPER NUMBER

1651

DATE MAILED: 09/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/772,645

Applicant(s)

ANDREOLI ET AL.

Examiner

David M. Naff

Art Unit

1651

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11 July 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-14 and 32-57 is/are pending in the application.
- 4a) Of the above claim(s) 32-44 and 46-57 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 and 45 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>5/7/04</u> . | 6) <input type="checkbox"/> Other: _____  |



Art Unit: 1651

The claims are confusing and unclear by claim 1 being unclear as to the functional relationship of each step to other steps in producing the substrate of the preamble.

5 In line 1 of claim 1, "multi-cell substrate" is uncertain as to meaning and scope. How "multi-cell" defines the substrate is uncertain. Moreover, steps of the method do not require any material that is "multi-cell". This term should be deleted.

In line 2 of the claim, "acts" should be changed to --- steps --- to be clear.

10 In lines 6-7, the claim is confusing by reciting "one or more non-solvents, opaque solids, and polyamide(s)" since "one" cannot be plural. Also is "one" requiring only the non-solvent, opaque solid or polyamide? The specification discloses that a combination of non-solvent, opaque solid and polyamide must be present. It is suggested  
15 that "one or more non-solvents, opaque solids, and polyamide(s)" be replaced with --- a non-solvent, an opaque solid and a polyamide ---.

Line 10 of the claim is confusing by requiring "producing an opaque solids-filled phase inversion casting dope" after mixing to cause dissolution in lines 8-9 without setting forth the step (or  
20 steps) that cause the inversion casting dope to be formed.

Lines 11-12 are unclear by requiring casting the dope without specifying the material on which the dope is casted.

Lines 13-14 are unclear by not specifying the physical step that results in "quenching", and not specifying the change in the casted  
25 dope that results in the casted dope being transformed to a substrate.

Art Unit: 1651

The physical difference between the casted dope and the substrate is uncertain. Furthermore, is the substrate the "non-luminescent microporous membrane" of line 4? If the substrate is not the membrane, when is the membrane produced?

5       Line 15 is confusing by being unclear as to physical phenomena that constitutes a "surface treatment". It is unclear how a surface treatment can be provided as separate from applying the surface treatment in line 16. A surface treatment will be provided when carrying out the step of treating the surface, and not before treating  
10 of the surface. Line 15 should be deleted. In line 16 change "the surface" to --- a surface ---, and after "substrate" insert --- to provide the non-porous substrate with a surface capable of covalently bonding to the non-luminescent microporous membrane ---.

15       In line 17, "intermingling" is uncertain as to meaning and scope. This term should be replaced with --- contacting ---.

      In line 18, "sufficiently" should be deleted since being sufficient is relative and subjective, and is uncertain as to meaning and scope.

20       Claim 1 is unclear when the non-luminescent substrate of line 1 is produced in the steps carried out. If the "combination" in line 19 is the substrate of line 1, this should be made clear by canceling "wherein the combination produced thereby is useful in microarray applications" (bridging lines 19 and 20), and inserting --- to provide said non-luminescent substrate useful for carrying a microarray of  
25 biological polymers ---.

Art Unit: 1651

Claim 2 is confusing by requiring silane materials as the surface treatment since a material is not a treatment. The claim should be amended in line 1 after "is" by inserting --- provided by reacting the surface with a silane ---. In line 2, "comprising" should be changed to --- consisting of --- to set forth proper language for a Markush group.

In line 2 of claim 4, "comprising" should be changed to --- consisting of --- to set forth proper language for a Markush group.

Claim 8 is confusing by not having antecedent basis in claim 1 for "polyamido polyamine epichlorohydrin polymer". Where in the method of claim 1 is the polymer used?

In claims 10-13, there is not antecedent basis for "the carbon particles". Claim 1 does not require carbon particles. These claims should be dependent on claim 9, which requires the particles.

Claim 14 is confusing by not having antecedent basis for "the polyamide support". Claim 1 does not require the polyamide to be a support, and "support" should be deleted in claim 14.

Claim 45 is confusing by not having antecedent basis for "the phase inversion membrane" in line 1. Claim 1 does not require a phase inversion membrane. Furthermore, materials recited as members of the Markush group in lines 3-4 are not a membrane. While nylon 66, nylon 46 and nylon 6 can be a polyamide as required in line 7 of claim 1, polysulfone and polyvinylidendifluoride are not a polyamide, and it is unclear where in claim 1 polysulfone and polyvinylidendifluoride are used. It is suggested that claim 45 be amended in line 1 by canceling

Art Unit: 1651

"phase inversion membrane" and inserting --- polyamide ---, and change lines 3-4 to read --- nylon 66, nylon 46 and nylon 6 ---.


**Conclusion**

The claims are free of the prior art.

5 Any inquiry concerning this communication or earlier communications from the examiner should be directed to David M. Naff whose telephone number is 571-272-0920. The examiner can normally be reached on Monday-Friday 9:30-6:00.

10 If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mike Wityshyn can be reached on 571-272-0926. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained 15 from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private 20 PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
David M. Naff  
Primary Examiner  
Art Unit 1651